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ART UNIT	**PAPER NUMBER**
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/897,429	HALES, ROBERT J.	
	Examiner	Art Unit	
	JASON PROCTOR	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-13,16,31,32 and 34-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-13,16,31,32 and 34-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 3-13, 16, 31-32, and 34-38 were rejected in the Office Action entered on 8 April 2010.

Applicants' response submitted on 8 October 2010 has amended claims 1, 13, and 36. Claims 1, 3-13, 16, 31-32, and 34-38 are pending in this application.

Claims 1, 3-13, 16, 31-32, and 34-38 are rejected.

Priority

1. Applicant's claim for domestic priority under 35 U.S.C. § 119(e) is acknowledged. The Examiner thanks Applicants for clarifying where support for the claims is found.

Applicants have submitted (27 July 2005) that:

> Support is believed to exist in the '303 and '040 applications for each of the now-pending claims. [...] Thus, it is believed that enabling support is found in the '303 application for claim 10, and for the same or similar reasons the '303 and '040 applications are believed to fully support the balance of the now-pending claims.

Applicants' arguments have established that the '303 and '040 application fully support the pending claims.

Claim Interpretation

2. Regarding the phrase "substantially instantaneously identical" as recited by claim 13, Applicants have submitted (27 July 2005) that:

> One of skill in the art would readily appreciate that the meaning of the term "substantially instantaneously identical" reflects the context of the system in which the term is used. Thus for example where data is mirrored on two servers, as a practical matter, the same data is available to users of both servers on a

> timeframe that is otherwise compatible with system operation. As such, one of skill in the art would understand the subject claim limitation without the expression of an absolute time span.

3. Regarding the phrase "detail drawing" as recited by claim 1 and others, the Examiner provided an interpretation in the previous Office Action. In response, Applicants submit (28 February 2007) that:

> In relation to the phrase "detail drawing," section 16.1 of provisional application 60/236,040 states that "[t]o create a new detail drawing... a dialog box will appear asking if you want to, 'Create a new detail drawing?' You will then be prompted to name the detail drawing..." Applicant respectfully submits that the term "detail drawing" thus refers to a discrete entity that can be "separately identified." The detail drawing is therefore not a functional equivalent of merely magnifying (zooming in on) an otherwise existing entity.

Additionally, the claim language has been amended to read "a separately identified detail drawing" (claim 1). Applicants' interpretation is acknowledged.

Response to Arguments - 35 USC § 103

4. In response to the previous rejection of claims 1, 3-16, and 36-38 under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,499,006 to Rappaport in view of US Patent No. 5,821,937 to Tonelli, further in view of "CADDstar Version 5.0 Help Manual" by Hal-Tec Corporation (referred to as "Help Manual" in Applicant's remarks), Applicant argues primarily that:

> [T]he Patent Office conclusion that Rappaport and Tonelli are analogous art on the grounds that they both relate to networks is believed to be improperly drawn. Applicants respectfully submits that Rappaport is completely different from Tonelli inasmuch as Rappaport relates to "allowing a RF system designer to dynamically model a wireless system electronically in any environment." Column 4, lines 13-15. This is very different from Tonelli which is directed to "auditing a network by using more than one soft probe to discover topology, host and interface information on devices in the network." Column 2, lines 25-28. Applicant submits that these objectives and systems are very different and would be directed to entirely different classes of practitioners. Accordingly, the proposed combination is believed to be improperly made.

The Examiner respectfully traverses this argument as follows.

Applicant's interpretation of the references is acknowledged. However, the Examiner respectfully submits that Rappaport and Tonelli are both drawn to solving the same general problem of communication network design and implementation.

Rappaport teaches a solution to the problem of designing and implementing networks ["As wireless communication systems proliferate, radio frequency (RF) coverage within and around buildings, and radio signal penetration into and out of buildings, has become a critical design issue for wireless engineers who must design and deploy cellular telephone systems, paging systems, or new wireless technologies such as personal communication systems (PCS), wireless local area networks (WLAN), and local multi-point distribution systems (LMDS)... The costs of in-building and microcellular wireless communication devices are diminishing while the workload for wireless system design engineers and technicians to deploy such systems is increasing sharply. Given these factors, rapid engineering design and deployment methods accompanied by comprehensive system performance visualization and analysis methods are vital to wireless communication system designers." (Rappaport, column 1, lines 25-48)] wherein the solution comprises building a computer model of a communications network (Rappaport, e.g. FIGS. 5-9).

Tonelli teaches a solution to the problem of designing and implementing networks ["While businesses are becoming increasingly dependent on internetworking, little attention has been paid to the process of correctly designing and implementing these networks... *An important* aspect of designing and maintaining networks is being able to quickly assess the current network configuration down to the device configuration level. Such information is helpful in

troubleshooting network problems and in updating a network system." (Tonelli, column 2, lines 4-22)] wherein the solution comprises building a computer model of a communications network (Tonelli, e.g. FIGS. 11, 24, 31).

Therefore the Examiner submits that a person attempting to design and implement a communications network, including a wireless RF component, would consider the teachings of both Rappaport and Tonelli as relevant and valuable to solving the problem at hand. Therefore Rappaport and Tonelli belong to the same field of endeavor, and are correctly combined as analogous art for the purposes of 35 U.S.C. § 103. Applicant's arguments have been fully considered but have been found unpersuasive.

5. Applicant further argues that:

> Applicant also restates here the previously made argument that the Help manual is not properly construed as prior art. As previously noted, the Help Manual was distributed on a limited basis and exclusively to specific purchasers of the corresponding software, and was not published or distributed on a shrinkwrap basis. As such it would have been available only to a constrained set of users and would not have been available to the practitioner of skill in the art. Consequently, any distribution of Help Manual does not rise to the level of publication, and Help Manual is therefore not properly a prior art reference.

The Examiner respectfully traverses this argument as follows.

According to MPEP 2128, a reference is proven to be a "printed publication" "upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it." Further, the traditional dichotomy between "printed" and "publication" is no longer valid. Given the state of technology in document duplication, data storage, and data retrieval systems, the probability of dissemination of an item very often has

little to do with whether or not it is printed in the sense of that word when it was introduced into the patent statues in 1836.

Further, an electronic publication, including an on-line database or Internet publication, is considered to be a "printed publication" within the meanings of 35 U.S.C. § 102(a) and (b) provided the publication was accessible to persons concerned with the art to which the document relates.

Further, MPEP 2128.01 instructs that a reference will constitute a "printed publication" as long as a presumption is raised that the portion of the public concerned with the art would know of the invention even if accessibility is restricted to only this part of the public.

Turning to the Help Manual document, the Examiner respectfully submits that whether or not the document was "published or distributed on a shrinkwrap basis" is not determinative of whether or not the Help Manual constitutes a "printed publication". Instead, Applicant acknowledges that the Help Manual was accessible and deliberately distributed to persons who purchased the related computer software. It stands to reason the persons who purchased the computer software are "the portion of the public concerned with the art" - so concerned, in fact, that they purchased specialized technical computer software to aid their work. The Help Manual was provided with the specialized technical computer software to the portion of the public concerned with the art. Therefore, the Examiner respectfully submits that the Help Manual appears to pass the threshold set forth in the MPEP defining a "printed publication," and therefore the Examiner maintains that the Help Manual is available as a prior art printed publication within the meanings of 35 U.S.C. § 102(a) and (b). Applicant's arguments have been fully considered but have been found unpersuasive.

6. Applicant further argues that:

> Even accepting, arguendo, that Rappaport and Tonelli are properly combined, and even with the further combination of Help Manual, Applicant respectfully submits that the references do not teach or suggest every feature of claim 1. In particular, none of the references now of record, whether taken alone or in combination, serves to teach or suggest the claim 1 features of "forming a visible image representing said planned deployment, said visible image including a separately identified integrated detail drawing; and associating a location on said visible image with a GPS signal."

Applicant's argument has been fully considered and has been found persuasive. Accordingly, the previous rejections have been withdrawn. However, an updated search of the prior art has revealed new prior art references. New grounds of rejection are entered below.

7. Applicants submit similar arguments for the other rejected claims. These arguments have been fully considered and have been addressed as shown above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 3-6, and 36-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,499,006 to Rappaport et al. in view of US Patent No. 5,821,937 to

Tonelli et al., further in view of "CADDstar Version 5.0 Help Manual" by Hal-Tec Corporation, and further in view of US Patent No. 5,587,725 to Lewis.

Regarding claim 1, Rappaport teaches a method for deploying a fiber optic communication network (column 1, lines 25-48) comprising:

Storing an attribute of an optical communication component in a catalog database entry (column 4, lines 46-50; column 6, lines 36-60) referred to as a computer parts database;

Associating the catalog database entry with a design profile (column 6, lines 40-44; column 8, lines 23-35);

Selecting and reading the attribute from the database entry (column 6, lines 40-44);

Associating the attribute with a planned deployment of a physical instance of the component (column 8, lines 23-35); and

Forming a visible image representing said planned deployment (column 4, lines 33-50).

Tonelli teaches forming a visible image representing a planned deployment of a physical instance of a component, said visible image including a separately identified integrated detail drawing [(FIG. 31); "For example, devices and media connections may be grouped into collections (logical partitions) to simplify working with complex network designs. Physically, a collection is a design sheet. Multiple collections may be linked to each other via off-page connections between their corresponding design sheets. Each collection is represented as an icon when collapsed, and when the user double clicks the left mouse button on an icon, the design sheet corresponding to the icon is displayed in the application window. Referring to FIG. 31, the devices and media connections on each floor of an office building 326 are grouped into

separate collections 320, 322, 324. The user imported a country map 328 and populated the country map with multiple building collections 326, 330, 332. The user may also import a world map and populate it with country collections *(not shown). Design sheets are hierarchical."* (column 15, lines 22-67)]

"CADDstar Version 5.0 Help Manual" teaches storing an attribute of an optical communication component in a computer catalog database entry, said optical communication component including a fiber reel having an uneven buffer count ["To add a fiber reel to the Fiber *Catalog, follow the list of bulleted instructions below... Buffer/Fiber Counts: [Click] the arrow* to the right of the buffer field and [click] the number of buffers in your fiber reel. [Click] the arrow to the right of the fibers field and select the number of fibers existent within each buffer. If your fiber reel contains an uneven number of buffers and fibers, [click] the Uneven Fiber Counts check box. The Buffer/Fiber *Counts... button will activate. [Click] the Buffer/Fiber Counts...* button and set up the buffers and fibers in your reel in the dialog box that will appear." (CADDstar Version 5.0 Help Manual, Hal-Tec Corporation, "9.0 The Master Fiber Catalog", page 41 of 58)]

"CADDstar Version 5.0 Help Manual" further teaches calculating an optical loss, including a loss associated with an optical fiber splice (See in particular section "10.17 Splicing Optical Fibers"; and Figures 10.17.3 and 10.17.1 showing "Loss" calculated for a plurality of fiber optic splices).

Lewis teaches associating a location on said visible image with a GPS signal ["GPS Systems have been adapted in the prior art to track objects and vehicles." (Lewis, column 1, lines 22-43); "It is an object of this invention to improve the accuracy of determining the location

of an object based upon signals received from a subset of a plurality of satellites, each of which is deposed in a known orbit about the earth." (Lewis, column 5, lines 22-25); "As will be explained below, the command center 38 uses the calculations whether made at the remote vehicle tracking unit 14 or at the center 38 itself, to provide a display of the vehicle location upon a background of a digitized, detailed map." (Lewis, column 9, lines 5-15)].

Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" are analogous art because all are drawn to network design tools.

Lewis and the combination of Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" are analogous art because both are drawn to determining the location of objects.

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Tonelli and Rappaport by incorporating the features shown in Tonelli FIG. 31 and described in Tonelli column 15 with the design tool taught by Rappaport. Motivation to combine the references is found in the express teachings of Tonelli, such as to design or maintain a complex network layout with the ability to view details down to the individual device ["An important aspect of designing and maintaining networks is being able to quickly assess the current network configuration down to the device configuration level. Such information is helpful in troubleshooting network problems and in updating a network system." (Tonelli, column 2, lines 16-22)].

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of "CADDstar Version 5.0 Help Manual" with Rappaport in view of Tonelli by combining the optical fiber splice loss calculation with the

design tool taught by Rappaport. Motivation to combine the references is found in the express teachings of "CADDstar Version 5.0 Help Manual" such as to have "fully integrated facilities management of drafting, RF/Coaxial design, and fiber design to allow for landbase drafting, digitizing, and design" (CADDstar, section "1.0 CADDStar Map Overview").

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Lewis with Rappaport in view of Tonelli and "CADDstart Version 5.0 Help Manual" because Tonelli teaches determining the geographical location of network devices ["Referring to FIG. 31, the devices and media connections on each floor of an office building 326 are grouped into separate collections 320, 322, 324. The user imported a country map 328 and populated the country map with multiple building collections 326, 330, 332. The user may also import a world map and populate it with country collections (not shown)." (Tonelli, column 15, lines 22-36); (Tonelli, FIG. 31)], and further because Rappaport teaches that the correct placement of network components is critical to optimal performance and cost ["Common to all wireless communication system designs is the desire to maximize the performance and reliability of the system while minimizing the deployment costs... The placement of these cells is critical from both a cost and performance standpoint." (Rappaport, column 1, lines 49-64); (Rappaport, FIGS. 5-9)]. Clearly Rappaport and Tonelli teach a person to determine the location of network equipment, and Rappaport especially teaches that location is critical to performance and cost. Lewis teaches a method for determining an object's location with enhanced accuracy (Lewis, column 5, lines 22-25), thereby providing the combined system of Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" with location data having enhanced accuracy. As a consequence, the network model produced using

the accurate location data would more closely reflect an existing network, or more accurately predict the performance of a network under design.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Rappaport, Tonelli, "CADDstar Version 5.0 Help Manual", and Lewis to arrive at the invention specified in claim 1.

Regarding claim 3, Rappaport teaches a computer-implemented method (column 4, lines 33-50) and recording associations in a computer database (column 6, lines 40-49).

Regarding claim 4, Rappaport does not explicitly teach physically deploying a physical instance of the component. However, Rappaport does teach a network design tool (column 5, lines 57-65; column 8, lines 23-35) and therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to physically deploy the network after it has been designed.

Regarding claims 5 and 6, Rappaport teaches identifying a geographic location for the network and displaying a graphical representation of the geographic location (column 4, lines 3-9; column 4, lines 33-38; column 8, lines 44-57).

Regarding claim 36, Rappaport teaches a method for deploying a fiber optic communication network (column 1, lines 25-48) comprising:

Storing an attribute of an optical communication component in a catalog database entry (column 4, lines 46-50; column 6, lines 36-60) referred to as a computer parts database;

Associating the catalog database entry with a design profile (column 6, lines 40-44; column 8, lines 23-35);

Selecting and reading the attribute from the database entry (column 6, lines 40-44);

Associating the attribute with a planned deployment of a physical instance of the component (column 8, lines 23-35); and

Forming a visible image representing said planned deployment (column 4, lines 33-50).

Tonelli teaches forming a visible image representing a planned deployment of a physical instance of a component, said visible image including a separately identified integrated detail drawing [(FIG. 31); "For example, devices and media connections may be grouped into collections (logical partitions) to simplify working with complex network designs. Physically, a collection is a design sheet. Multiple collections may be linked to each other via off-page connections between their corresponding design sheets. Each collection is represented as an icon when collapsed, and when the user double clicks the left mouse button on an icon, the design sheet corresponding to the icon is displayed in the application window. Referring to FIG. 31, the devices and media connections on each floor of an office building 326 are grouped into separate collections 320, 322, 324. The user imported a country map 328 and populated the country map with multiple building collections 326, 330, 332. The user may also import a world *map and populate it with country collections (not shown). Design sheets are hierarchical."* (column 15, lines 22-67)].

Tonelli teaches performing a system calculation considering small-scale features represented in the detail drawing and large-scale features otherwise represented in the visible image [*"Network Audit Software"* (column 18, line 11 – column 22, line 25) describes several "system calculations". The network components (in any of the hierarchical displays) are included in the system calculations. Alternatively, Tonelli teaches various steps of "validating" the network configuration, for example (column 17, lines 11-17)].

"CADDstar Version 5.0 Help Manual" teaches calculating an respective optical losses for optical fibers of different grades disposed within a single buffer ["To add a Fiber Type, [click] the Add Fiber Type button in the Fibers, Connectors, *and Attenuators dialog box... To add a new Fiber Type to your Fiber Catalog follow the bulleted instructions below... Losses: Input the* appropriate losses for the fiber type you are setting up in the losses field. These are based on the Manufacturer's specifications." ("CADDstar Version 5.0 Help Manual, section 9.3.1.1); "To add a fiber reel to the FIber Catalog, [click] the Add a Fiber Reel button in the Fiber Reels menu... To add a fiber reel to the FIber Catalog, follow the list of bulleted instructions below... [Click] *the Buffer/Fiber Counts... button and set up the buffers and fibers in your reel in the dialog box* that will appear." ("CADDstar Version 5.0 Help Manual, section 9.4.1); and the CADDstar Help Manual demonstrates the calculation of a signal loss for a plurality of fibers in a fiber reel (See in particular section "10.17 Splicing Optical Fibers"; and Figures 10.17.3 and 10.17.1 showing "Loss" calculated for a plurality of fiber optic splices)].

Although the examples in section 10.17 show the same "0.10" loss for each of fibers 1 through 12, the clear teachings of CADDstar Version 5.0 Help Manual provide for the creation of a fiber reel comprising a plurality of fibers of different grades (i.e. with various different

"losses"). The individual fibers are defined as in section 9.3.1.1, the fiber reel is defined as in section 9.4.1, and the "calculations portion being adapted to calculate power and signal relationships for individual optical fibers of different grades disposed within a single buffer" is shown in section 10.17.

Lewis teaches associating a location on said visible image with a GPS signal ["GPS Systems have been adapted in the prior art to track objects and vehicles." (Lewis, column 1, lines 22-43); "It is an object of this invention to improve the accuracy of determining the location of an object based upon signals received from a subset of a plurality of satellites, each of which is deposed in a known orbit about the earth." (Lewis, column 5, lines 22-25); "As will be explained below, the command center 38 uses the calculations whether made at the remote vehicle tracking unit 14 or at the center 38 itself, to provide a display of the vehicle location upon a background of a digitized, detailed map." (Lewis, column 9, lines 5-15)].

Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" are analogous art because all are drawn to network design tools.

Lewis and the combination of Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" are analogous art because both are drawn to determining the location of objects.

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Tonelli and Rappaport by incorporating the features shown in Tonelli FIG. 31 and described in Tonelli column 15 with the design tool taught by Rappaport. Motivation to combine the references is found in the express teachings of Tonelli, such as to design or maintain a complex network layout with the ability to view details down to the individual device ["An important aspect of designing and maintaining networks is being able

to quickly assess the current network configuration down to the device configuration level. Such information is helpful in troubleshooting network problems and in updating a network system." (Tonelli, column 2, lines 16-22)].

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of "CADDstar Version 5.0 Help Manual" with Rappaport in view of Tonelli by combining the optical fiber splice loss calculation with the design tool taught by Rappaport. Motivation to combine the references is found in the express teachings of "CADDstar Version 5.0 Help Manual" such as to have "fully integrated facilities management of drafting, RF/Coaxial design, and fiber design to allow for landbase drafting, digitizing, and design" (CADDstar, section "1.0 CADDStar Map Overview").

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Lewis with Rappaport in view of Tonelli and "CADDstart Version 5.0 Help Manual" because Tonelli teaches determining the geographical location of network devices ["Referring to FIG. 31, the devices and media connections on each floor of an office building 326 are grouped into separate collections 320, 322, 324. The user imported a country map 328 and populated the country map with multiple building collections 326, 330, 332. The user may also import a world map and populate it with country collections (not shown)." (Tonelli, column 15, lines 22-36); (Tonelli, FIG. 31)], and further because Rappaport teaches that the correct placement of network components is critical to optimal performance and cost ["Common to all wireless communication system designs is the desire to maximize the performance and reliability of the system while minimizing the deployment costs... The placement of these cells is critical from both a cost and performance standpoint."

(Rappaport, column 1, lines 49-64); (Rappaport, FIGS. 5-9)]. Clearly Rappaport and Tonelli teach a person to determine the location of network equipment, and Rappaport especially teaches that location is critical to performance and cost. Lewis teaches a method for determining an object's location with enhanced accuracy (Lewis, column 5, lines 22-25), thereby providing the combined system of Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" with location data having enhanced accuracy. As a consequence, the network model produced using the accurate location data would more closely reflect an existing network, or more accurately predict the performance of a network under design.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Rappaport, Tonelli, "CADDstar Version 5.0 Help Manual", and Lewis to arrive at the invention specified in claim 36.

Regarding claims 37 and 38, Rappaport teaches a calculations portion adapted to calculate power and signal relationships within a communications network (column 7, lines 10-27, etc.).

9. Claims 7-9, 12, 31-32, and 34-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,499,006 to Rappaport in view of US Patent No. 5,821,937 to Tonelli, further in view of "CADDstar Version 5.0 Help Manual" by Hal-Tec Corporation as applied to claims 1 and 5 above, and further in view of US Patent No. 4,866,704 to Bergman.

Regarding claims 7-9, 12, 31-32, and 34-35, Rappaport in view of Tonelli does not explicitly teach the fiber optic equipment recited by these claims.

Bergman teaches the fiber optic equipment recited by these claims (title, abstract, columns 1-2, etc.).

Bergman and Rappaport in view of Tonelli, further in view of "CADDstar Version 5.0 Help Manual" are analogous art because both are drawn to communications networks.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of the prior art to arrive at the inventions specified in claims 7-9, 12, 31-32, and 34-35 as expressly motivated by Bergman, such as to design a network for spacecraft environments [*"This invention provides an asynchronous, high-speed, fiber optic local area network originally developed for tactical environments, such as military field communications systems, but having additional specific benefits for other environments such as spacecraft and the like."* (column 3, lines 11-34)].

10. Claims 10-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,499,006 to Rappaport in view of US Patent No. 5,821,937 to Tonelli, further in view of "CADDstar Version 5.0 Help Manual" by Hal-Tec Corporation as applied to claim 1 above, and further in view of US Patent No. 5,761,432 to Bergholm et al., hereafter referred to as Bergholm.

Regarding claims 10 and 11, Rappaport in view of Tonelli, further in view of "CADDstar Version 5.0 Help Manul" teaches the limitations of claim 1.

Bergholm teaches a planned deployment including identification of an instance with an owner (column 2, lines 39-63; column 4, lines 13-24).

Bergholm and Rappaport in view of Tonelli, further in view of "CADDstar Version 5.0 Help Manual" are analogous art because both are directed to network design.

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Bergholm with Rappaport in view of Tonelli by incorporating the attributes described by Bergholm, including ownership of the network equipment, in the computer parts database of Rappaport. The motivation to do so is expressly provided by Bergholm, such as to apprise network builders of inventory information and designing links to implement orders (Bergholm, column 1, lines 55-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Bergholm with Rappaport and Tonelli to arrive at the invention specified in claims 10 and 11.

11. Claims 13 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "Modelling Multiple View Of Design Objects In A Collaborative Cad Environment" by Rosenman in view of US Patent No. 6,499,006 to Rappaport, further in view of "CADDstar Version 5.0 Help Manual" by Hal-Tec Corporation, further in view of US Patent No. 5,587,715 to Lewis.

Regarding claim 13, Rosenman teaches a first computer including a first memory storage device having application software encoded therein; a second computer, operatively connected to said first computer, having a second memory storage device adapted to record first project data;

and a third computer, operatively connected to said second computer, having a third memory storage device adapted to record second project data, said first and second project data being substantially instantaneously identical (pages 21-23, "Computer-Supported Collaborative Design");

Said software including a catalog portion being adapted to receive data defining a plurality of communication network components (page 22, "Design Object Database System");

Said first data including a logical model (pages 21-23, "Computer-Supported Collaborative Design").

Rosenman does not explicitly teach the claimed "design profile portion," "calculations portion," or "detail drawing portion."

Rappaport teaches a design profile portion adapted to receive data defining a plurality of design rules related to logical design of a network [*"Each component utilizes electromechanical* information available from the parts list library that fully describes the component in terms of its physical operating characteristics (e.g., the noise figure, frequency, radiation characteristics, etc.). This information is directly utilized during the prediction of wireless system performance *metrics."* (column 6, lines 26-60)].

Rappaport teaches a calculations portion adapted to calculate power and signal relationships within a communications network components (column 7, lines 10-27; column 4, lines 13-32, etc.). Rappaport teaches a multiple dwelling unit (FIG. 3, etc.).

"CADDstar Version 5.0 Help Manual" teaches calculating an respective optical losses for optical fibers of different grades disposed within a single buffer ["To add a Fiber Type, [click] the Add Fiber Type button in t*he Fibers, Connectors, and Attenuators dialog box... To add a*

new Fiber Type to your Fiber Catalog follow the bulleted instructions below... Losses: Input the appropriate losses for the fiber type you are setting up in the losses field. These are based on the Manufacturer's specifications." ("CADDstar Version 5.0 Help Manual, section 9.3.1.1); "To add a fiber reel to the FIber Catalog, [click] the Add a Fiber Reel button in the Fiber Reels menu... To add a fiber reel to the FIber Catalog, follow the list of bulleted instructions below... [Click] *the Buffer/Fiber Counts... button and set up the buffers and fibers in your reel in the dialog box* that will appear." ("CADDstar Version 5.0 Help Manual, section 9.4.1); and the CADDstar Help Manual demonstrates the calculation of a signal loss for a plurality of fibers in a fiber reel (See in particular section "10.17 Splicing Optical Fibers"; and Figures 10.17.3 and 10.17.1 showing "Loss" calculated for a plurality of fiber optic splices)].

Although the examples in section 10.17 show the same "0.10" loss for each of fibers 1 through 12, the clear teachings of CADDstar Version 5.0 Help Manual provide for the creation of a fiber reel comprising a plurality of fibers of different grades (i.e. with various different "losses"). The individual fibers are defined as in section 9.3.1.1, the fiber reel is defined as in section 9.4.1, and the "calculations portion being adapted to calculate power and signal relationships for individual optical fibers of different grades disposed within a single buffer" is shown in section 10.17.

Lewis teaches associating a location of a communication network component of said plurality of communication network components with a physical address determined by a GPS signal ["GPS Systems have been adapted in the prior art to track objects and vehicles." (Lewis, column 1, lines 22-43); "It is an object of this invention to improve the accuracy of determining the location of an object based upon signals received from a subset of a plurality of satellites,

each of which is deposed in a known orbit about the earth." (Lewis, column 5, lines 22-25); "As will be explained below, the command center 38 uses the calculations whether made at the remote vehicle tracking unit 14 or at the center 38 itself, to provide a display of the vehicle location upon a background of a digitized, detailed map." (Lewis, column 9, lines 5-15)].

Rosenman, Rappaport, and "CADDstar Version 5.0 Help Manual" are all analogous art because all are drawn to CAD.

Lewis and the combination of Rappaport, Tonelli, and "CADDstar Version 5.0 Help Manual" are analogous art because both are drawn to determining the location of objects.

Therefore, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Rappaport with Rosenman as expressly motivated by Rappaport, such as to simplify the design task [*"Using the present method, it is now possible to assess the performance* of a wireless communication system to a much higher level of precision than previously poss*ible... The design of wireless communication systems is often a very complex and arduous* task, with a considerable amount of effort required to simply analyze the results of predicted *performance."* (column 5, liens 52-65)]. It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of "CADDstar Version 5.0 Help Manual" with Rosenman in view of Rappaport by combining the optical fiber splice loss calculation with the design tool taught by Rappaport. Motivation to combine the references is found in the express teachings of "CADDstar Version 5.0 Help Manual" such as to have "fully integrated facilities management of drafting, RF/Coaxial design, and fiber design to allow for landbase drafting, digitizing, and design" (CADDstar, section "1.0 CADDStar Map Overview").

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Lewis with Rappaport in view of Tonelli and "CADDstart Version 5.0 Help Manual" because Rappaport teaches that the correct placement of network components is critical to optimal performance and cost ["Common to all wireless communication system designs is the desire to maximize the performance and reliability of the system while minimizing the deployment costs... The placement of these cells is critical from both a cost and performance standpoint." (Rappaport, column 1, lines 49-64); (Rappaport, FIGS. 5-9)]. Clearly Rappaport teaches a person to determine the location of network equipment, and especially teaches that location is critical to performance and cost. Lewis teaches a method for determining an object's location with enhanced accuracy (Lewis, column 5, lines 22-25), thereby providing the combined system of Rosenmann, Rappaport, and "CADDstar Version 5.0 Help Manual" with location data having enhanced accuracy. As a consequence, the network model produced using the accurate location data would more closely reflect an existing network, or more accurately predict the performance of a network under design.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Rosenman, Rappaport, "CADDstar Version 5.0 Help Manual", and Lewis to arrive at the invention specified in claim 13.

Regarding claim 16, Rappaport teaches a software method for designing a network comprising a wireless communication portion (column 5, lines 52-65).

12. Claims 1, and 3-12, 31-32, and 34-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "CADDstar version 5.0 help manual" by Hal-Tec Corporation in view of US Patent No. 5,821,937 to Tonelli et al., hereafter referred to as Tonelli, further in view of US Patent No. 5,587,715 to Lewis.

Applicants' remarks (2 February 2009, page 15) allege that "CADDstar Version 5.0 Help Manual" fails to teach "calculating an optical loss, including a loss associated with an optical fiber splice".

"CADDstar Version 5.0 Help Manual" clearly teaches these limitations. See, in particular, section "10.17 Splicing Optical Fibers" and Figures 10.17.3 and 10.17.1.

Applicants' remarks (16 March 2010, page 10) allege that none of the references of record, including "CADDstar Version 5.0 Help Manual" teach "an optical communication component in a computer catalog database entry, said optical communication component including a fiber reel having an uneven buffer count".

"CADDstar Version 5.0 Help Manual" clearly teaches these limitations. See, in particular, section "9.4.1 Add a Fiber Reel".

Applicants' remarks (15 July 2008, page 16) distinguish claim 1 from the "CADDstar version 5.0 help manual" by way of the "detail drawing" limitation.

Tonelli teaches a "separately identified detail drawing" [(FIG. 31); "For example, devices and media connections may be grouped into collections (logical partitions) to simplify working with complex network designs. Physically, a collection is a design sheet. Multiple collections may be linked to each other via off-page connections between their corresponding design sheets. Each collection is represented as an icon when collapsed, and when the user double clicks the

left mouse button on an icon, the design sheet corresponding to the icon is displayed in the application window. Referring to FIG. 31, the devices and media connections on each floor of an office building 326 are grouped into separate collections 320, 322, 324. The user imported a country map 328 and populated the country map with multiple building collections 326, 330, 332. The user may also import a world map and populate it with country collections (not *shown). Design sheets are hierarchical."* (column 15, lines 22-67)].

Applicant's remarks (8 October 2010, page 13) distinguish claims 1, 3-12, 31-32, and 34-35 over "CADDstar version 5.0 Help Manual" in view of Tonelli by way of the "associating a location on said visible image with a GPS signal" limitation.

Lewis clearly teaches these limitations ["GPS Systems have been adapted in the prior art to track objects and vehicles." (Lewis, column 1, lines 22-43); "It is an object of this invention to improve the accuracy of determining the location of an object based upon signals received from a subset of a plurality of satellites, each of which is deposed in a known orbit about the earth." (Lewis, column 5, lines 22-25); "As will be explained below, the command center 38 uses the calculations whether made at the remote vehicle tracking unit 14 or at the center 38 itself, to provide a display of the vehicle location upon a background of a digitized, detailed map." (Lewis, column 9, lines 5-15)].

"CADDstar version 5.0 Help Manual" and Tonelli are analogous art because both are drawn to CAD.

Lewis and the combination of "CADDstar Version 5.0 Help Manual" and Tonelli are analogous art because both are drawn to determining the location of objects.

Therefore, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Tonelli with "CADDstar version 5.0 Help Manual" as expressly motivated by Tonelli, such as to design or maintain a complex network layout with the ability to view details down to the individual device ["An important aspect of designing and maintaining networks is being able to quickly assess the current network configuration down to the device configuration level. Such information is helpful in troubleshooting network problems and in updating a network system." (Tonelli, column 2, lines 16-22)].

It would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to combine the teachings of Lewis with Tonelli and "CADDstar Version 5.0 Help Manual" because Tonelli teaches determining the geographical location of network devices ["Referring to FIG. 31, the devices and media connections on each floor of an office building 326 are grouped into separate collections 320, 322, 324. The user imported a country map 328 and populated the country map with multiple building collections 326, 330, 332. The user may also import a world map and populate it with country collections (not shown)." (Tonelli, column 15, lines 22-36); (Tonelli, FIG. 31)], and further "CADDstar Version 5.0 Help Manual" teaches advanced features for accurately mapping a network design ("CADDstar Version 5.0 Help Manual", chapter "4.0 CADDstar Map Drafting Catalog", pages 1-33 of 33). Clearly Tonelli teaches a person to determine the location of network equipment. Lewis teaches a method for determining an object's location with enhanced accuracy (Lewis, column 5, lines 22-25), thereby providing the combined system of Tonelli and "CADDstar Version 5.0 Help Manual" with location data having enhanced accuracy. As a consequence, the network model

produced using the accurate location data would more closely reflect an existing network, or more accurately predict the performance of a network under design.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to combine the teachings of "CADDstar Version 5.0 Help Manual," Tonelli, and Lewis to arrive at the invention specified in claims 1, and 3-12, 31-32, and 34-35.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached between 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jason Proctor/
Primary Examiner, Art Unit 2123

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